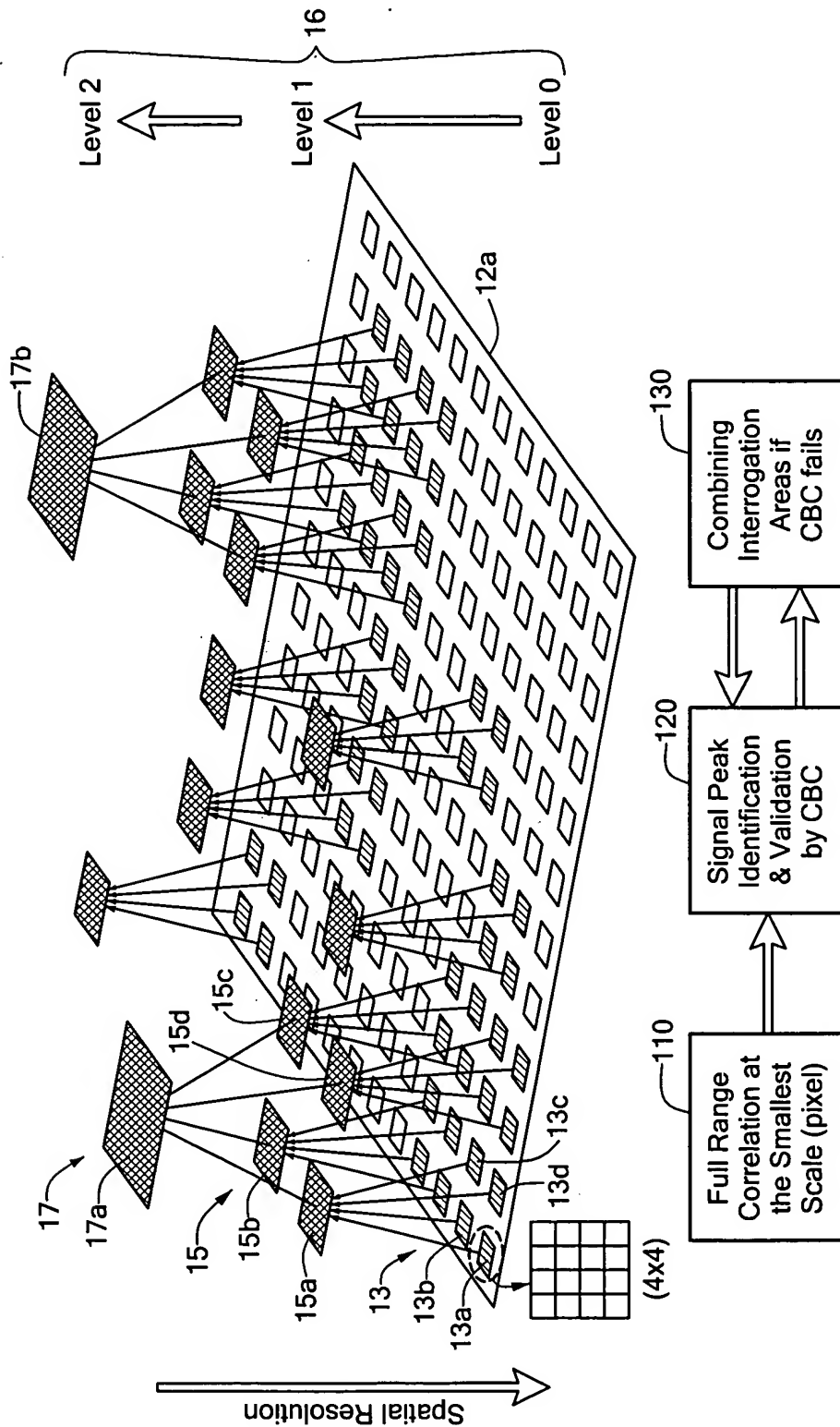
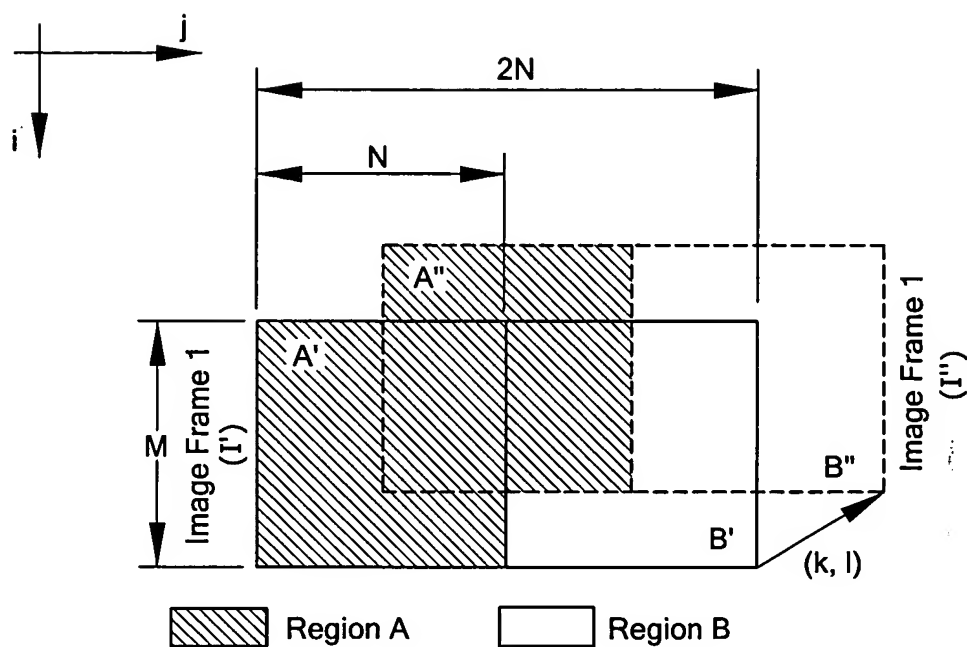


**FIG. 1a**

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**FIG. 1b**



**FIG. 2**

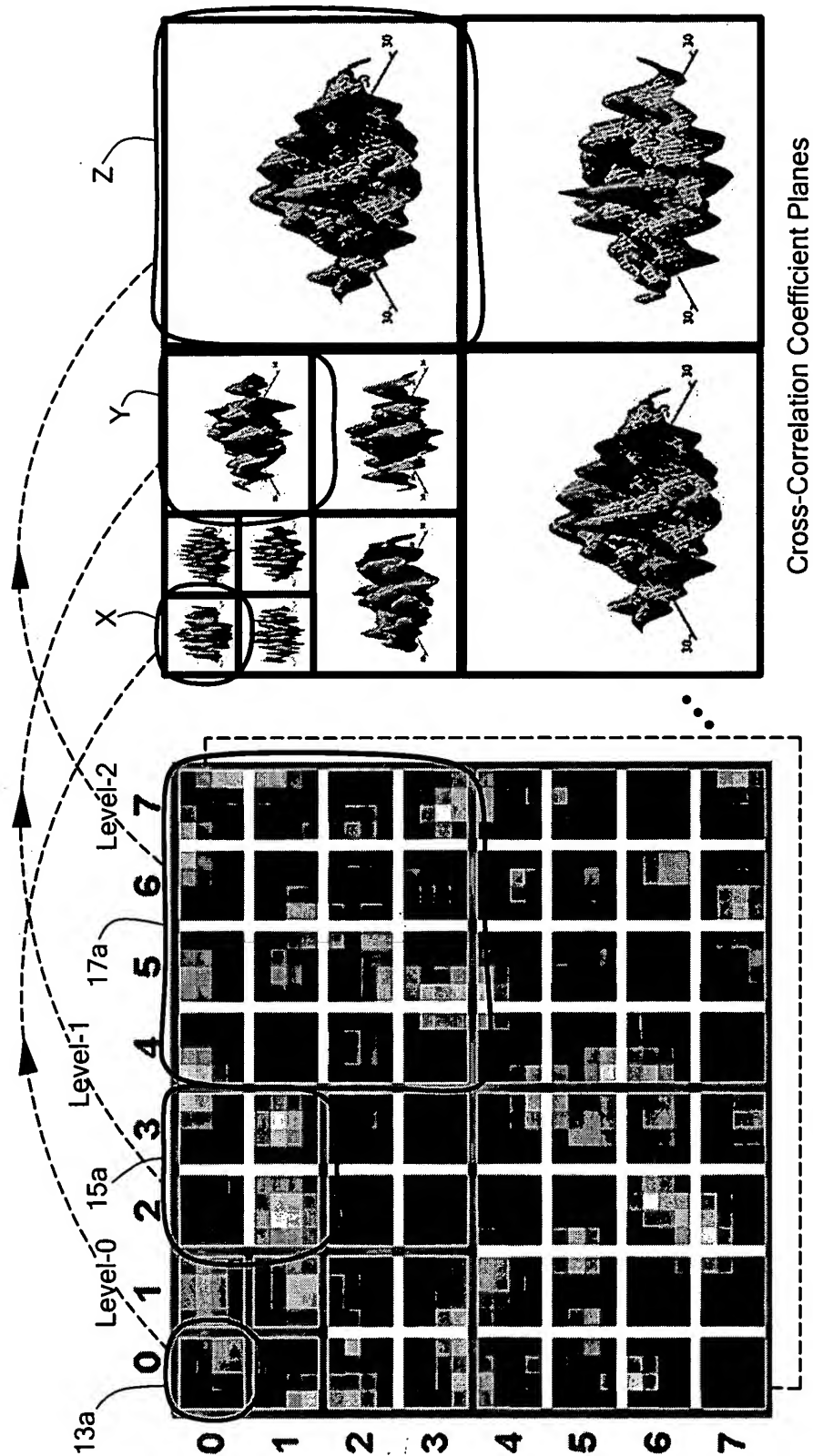
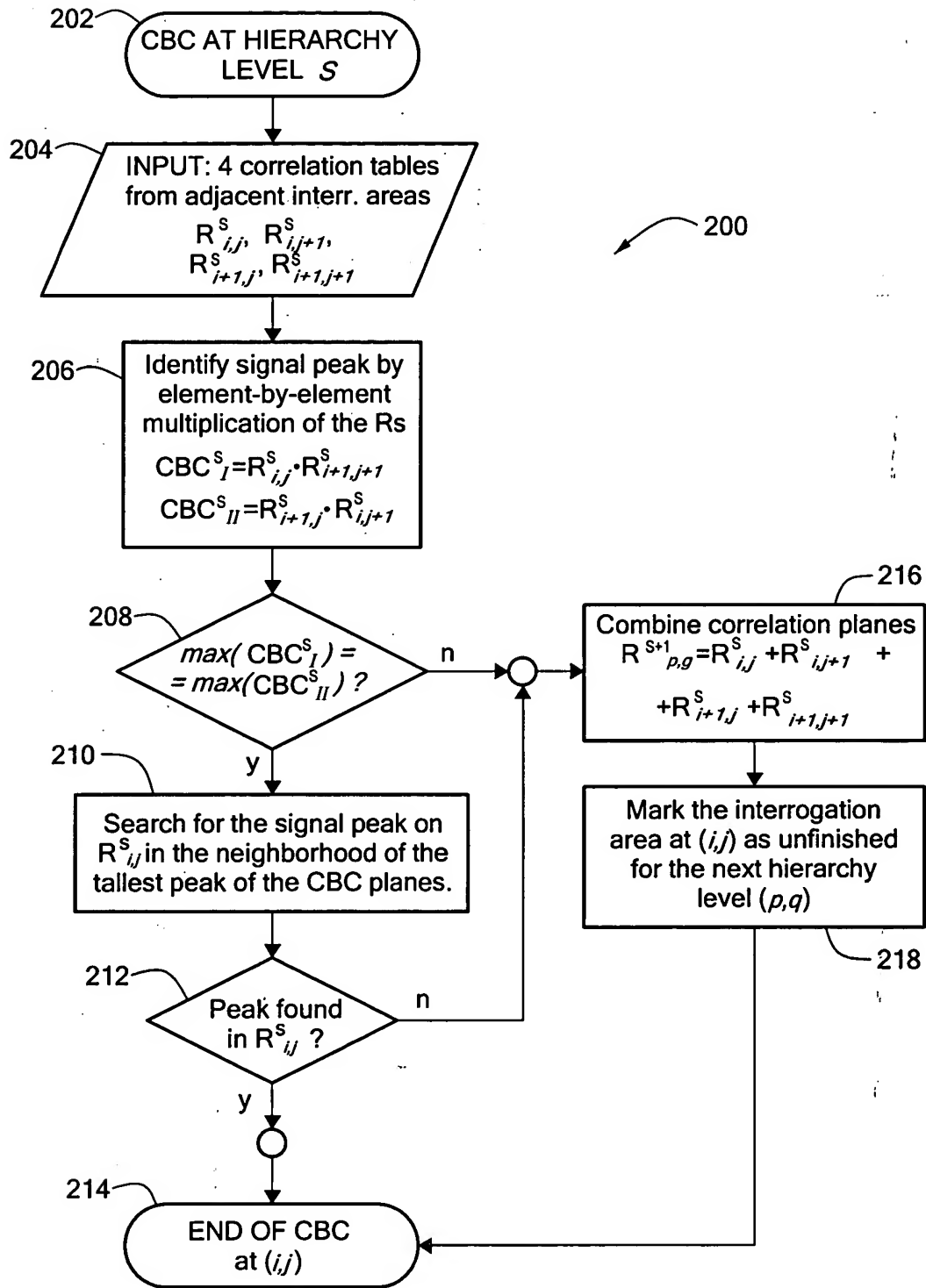


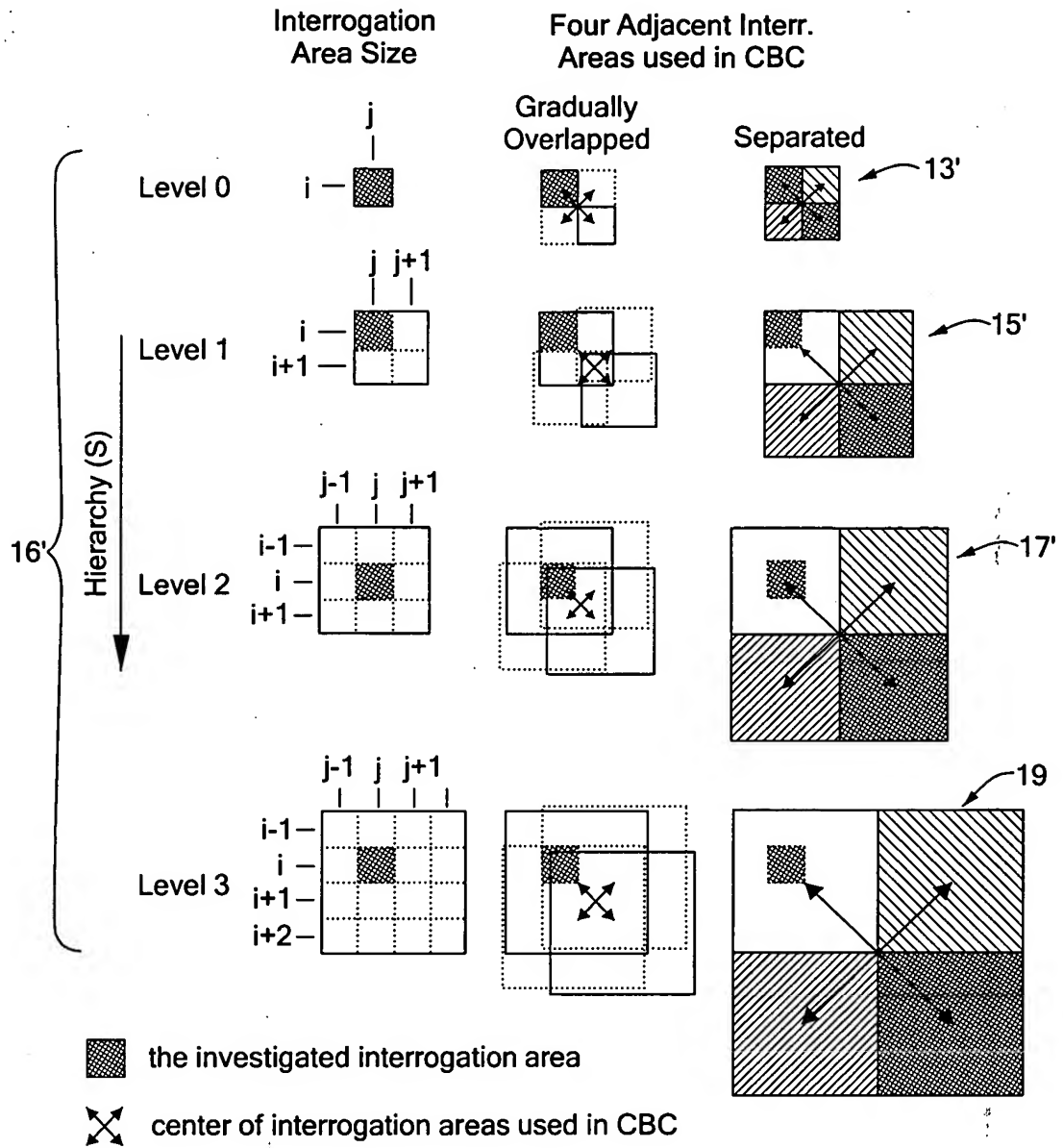
FIG. 3b

FIG. 3a





**FIG 4a**



**FIG. 4b**



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Full image size.....:  $(M+2\delta) \times (M+2\delta)$  pixels  
 Smallest interr. area size.....:  $N \times N$  pixels  
 Search length.....:  $\delta \times \delta$  pixels  
 No. of spatial hierarchy levels.....:  $S$

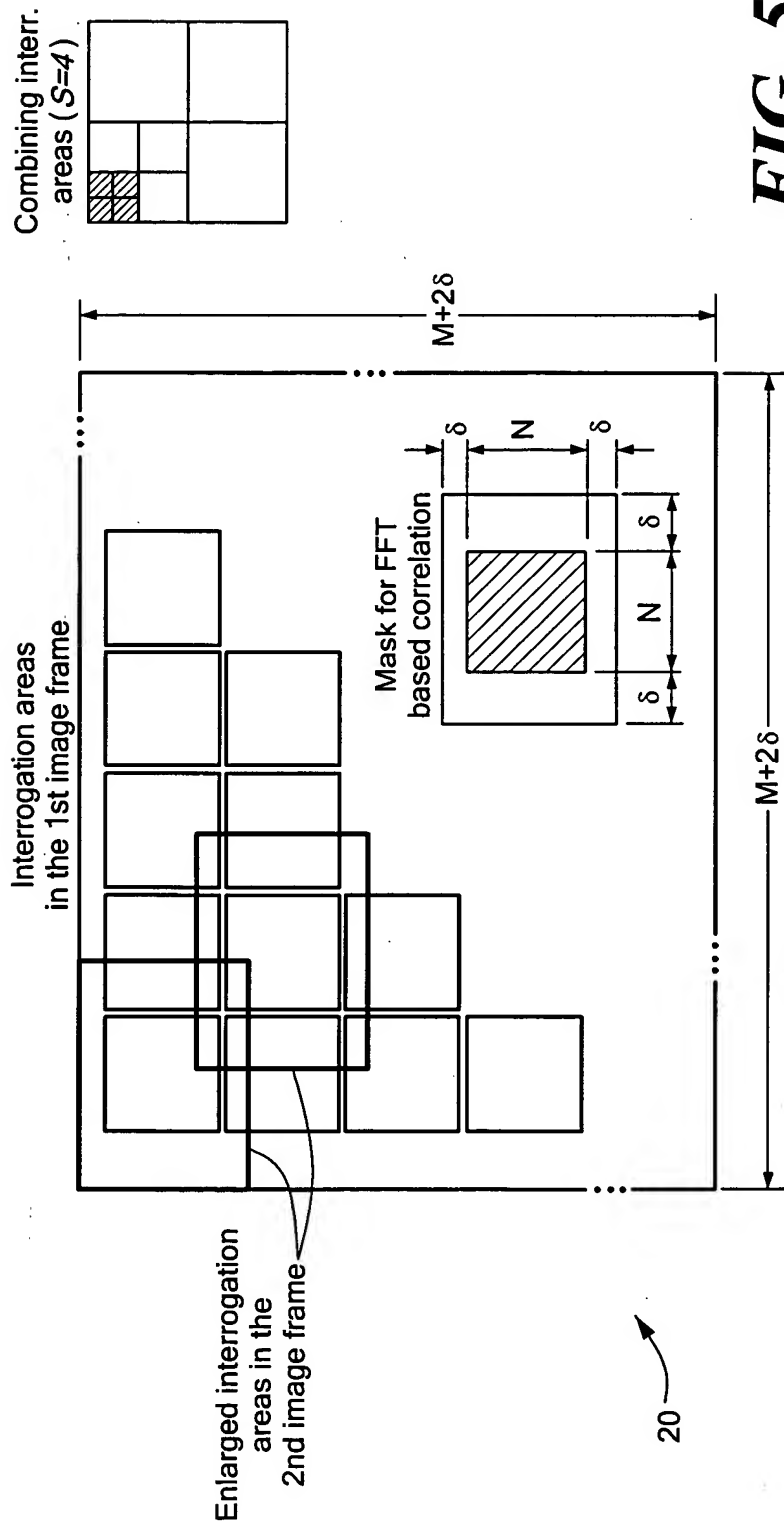
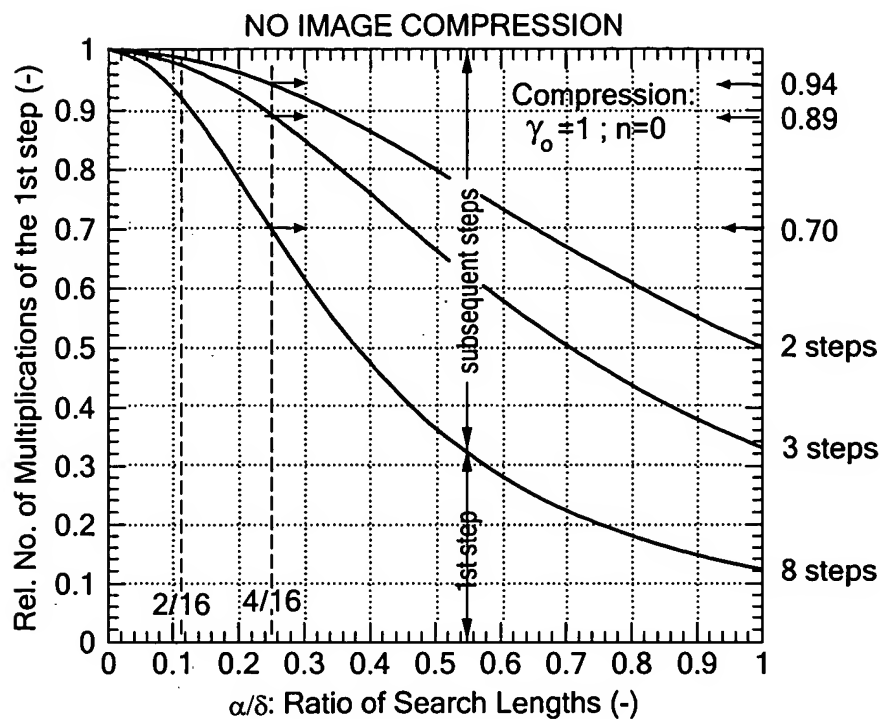


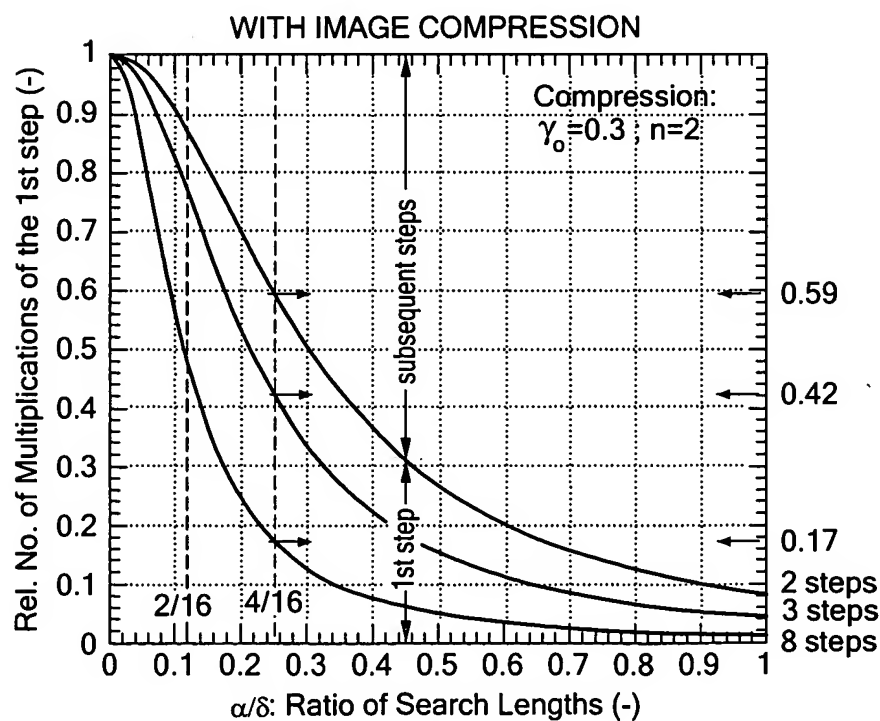
FIG. 5



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**FIG. 6a**

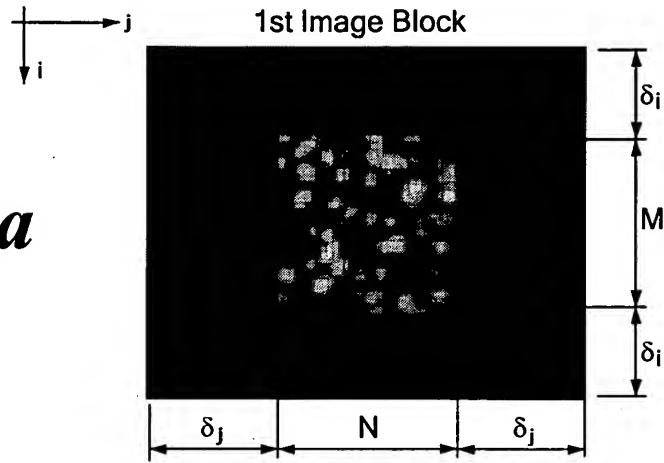


**FIG. 6b**

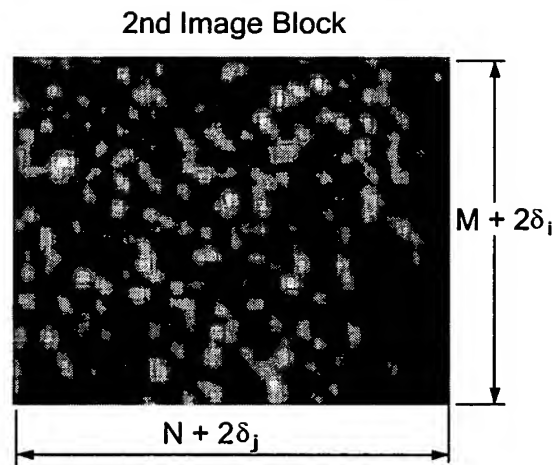


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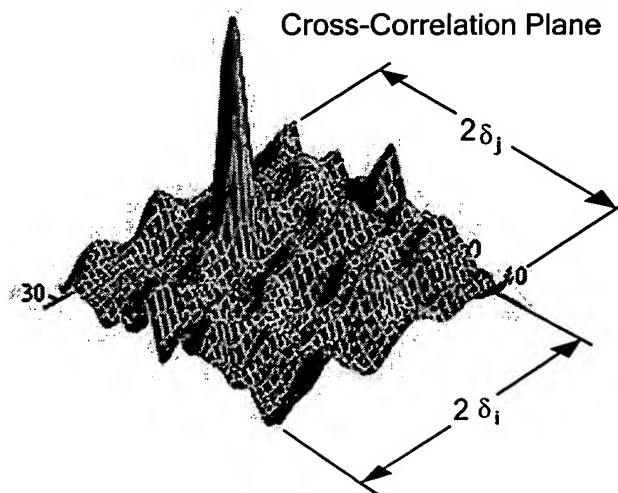
**FIG. 7a**



**FIG. 7b**



**FIG. 7c**



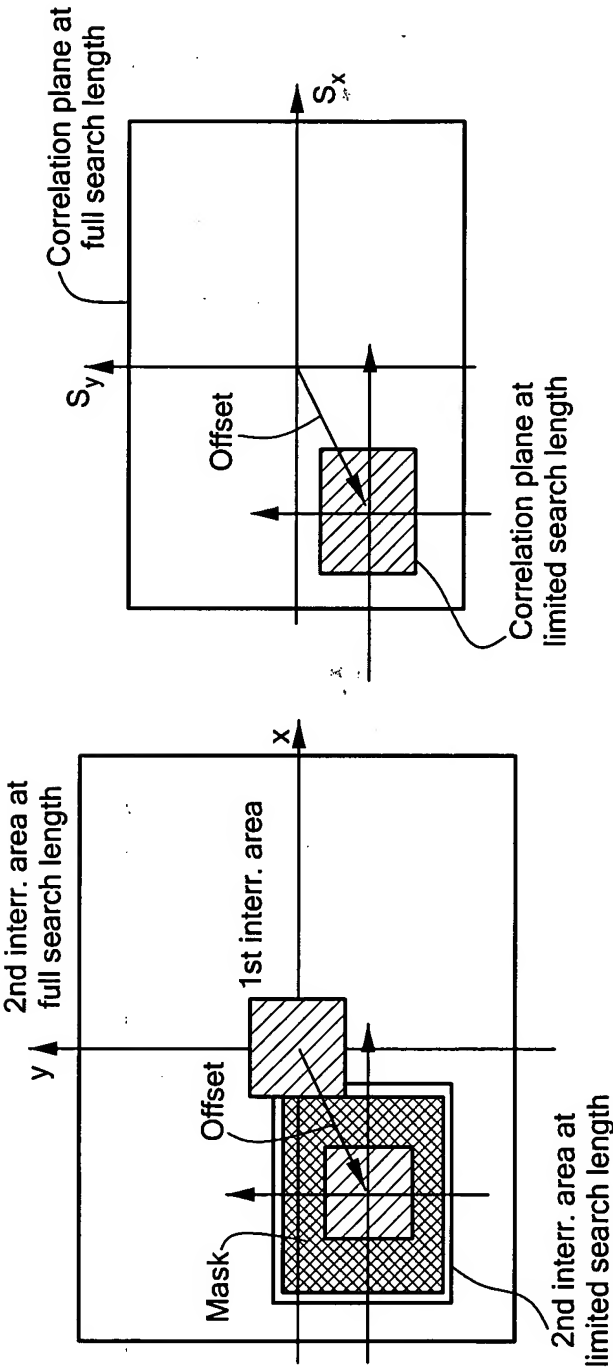
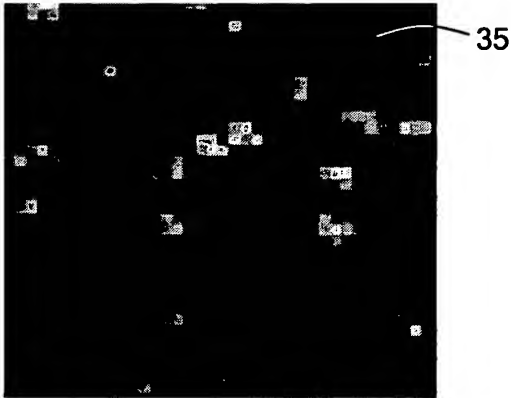


FIG. 8



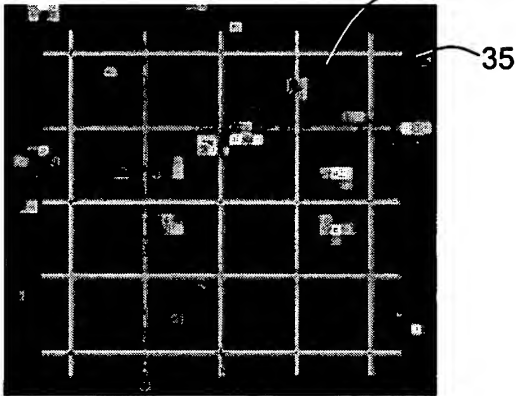
*FIG. 9a*

Original Image Frame



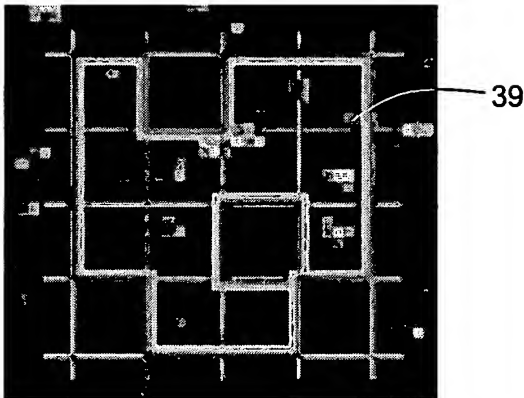
*FIG. 9b*

Interrogation Areas on Uniform Mesh



*FIG. 9c*

Combining Interrogation Areas based on Signal Content





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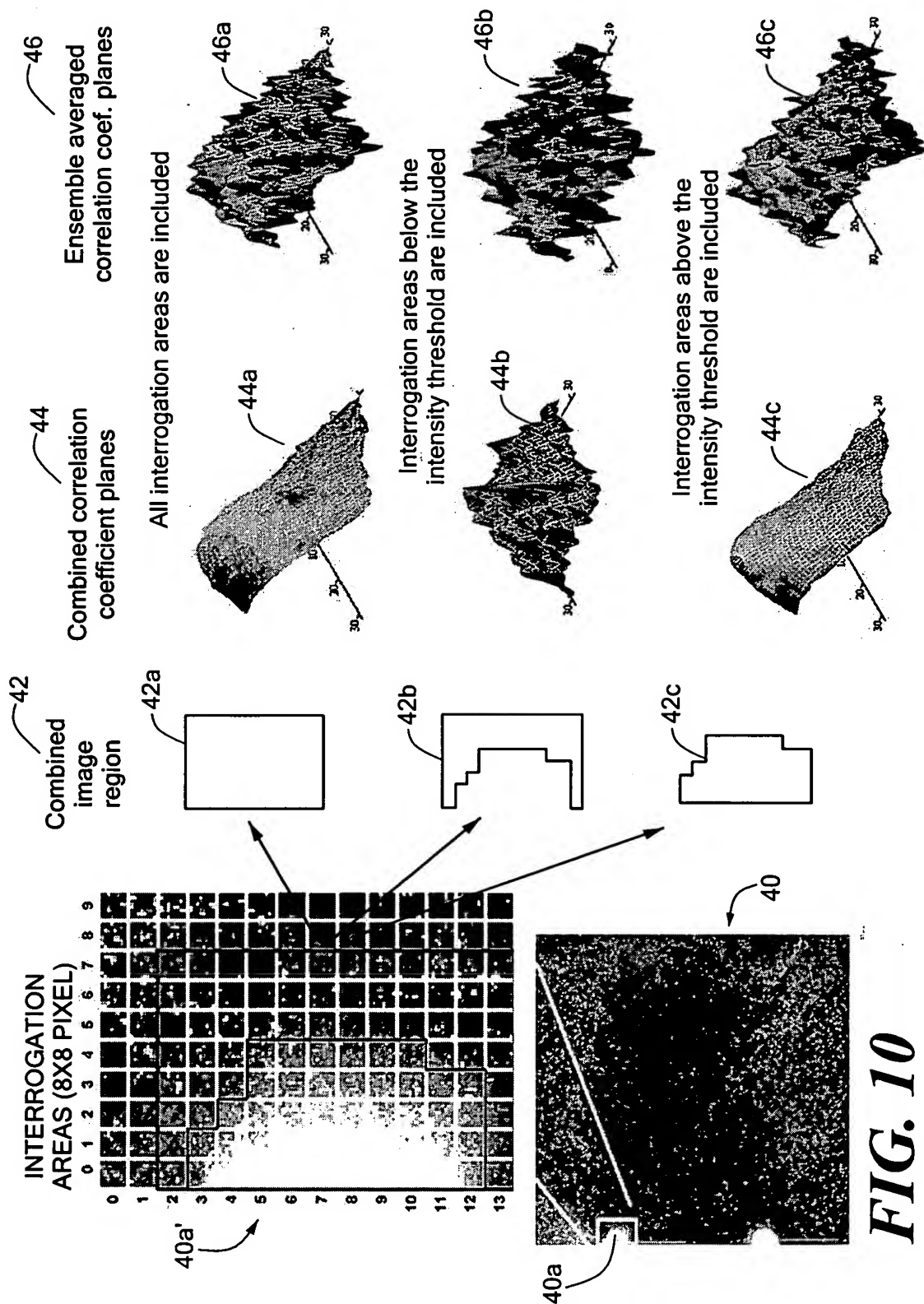
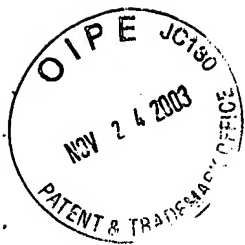
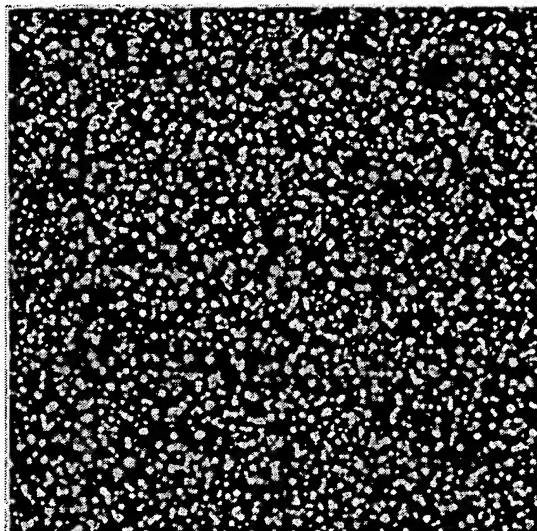


FIG. 10



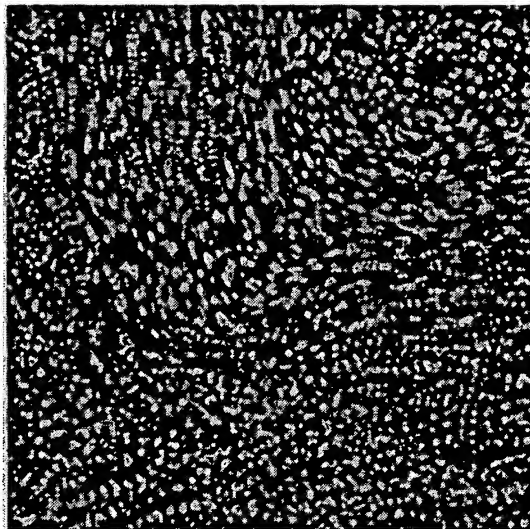
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VJS PIV STANDARD IMAGE #23: 3D JET IMPINGEMENT/DENSE PARTICLE  
First Image Frame



***FIG. 11a***

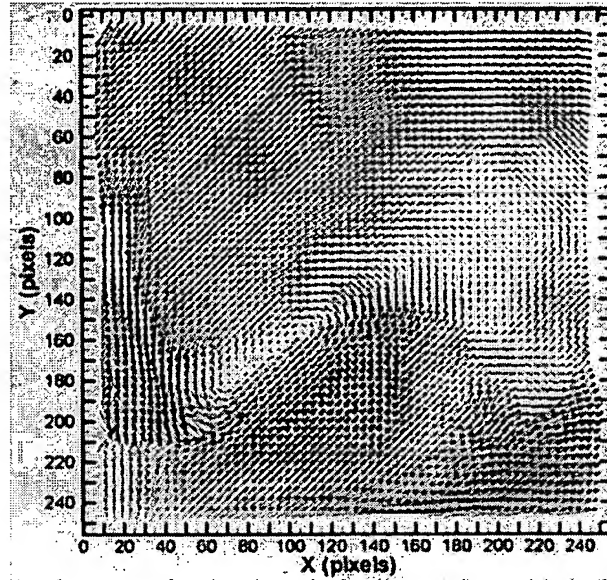
VJS PIV STANDARD IMAGE #23: 3D JET IMPINGEMENT/DENSE PARTICLE  
Overlaid 1st and 2nd Image Frames



***FIG 11b***

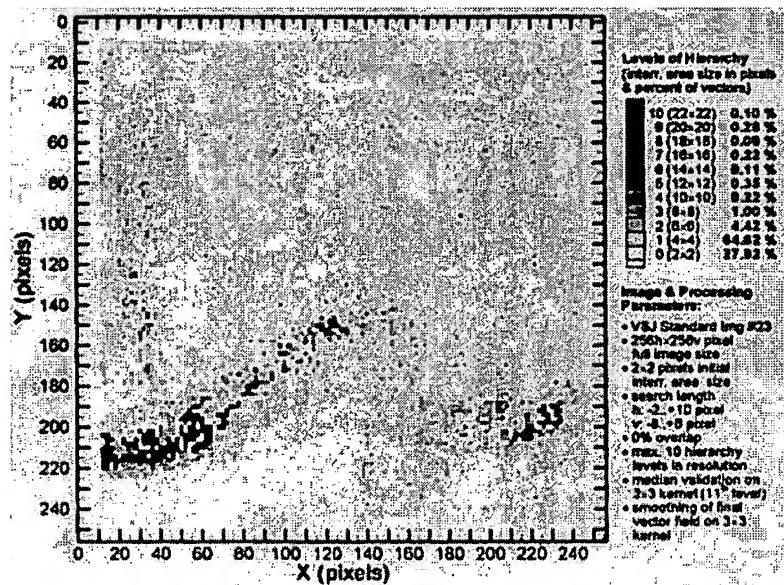
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Vector Field on a Regular Mesh



**FIG. 11c**

Distribution of Interrogation Area Size



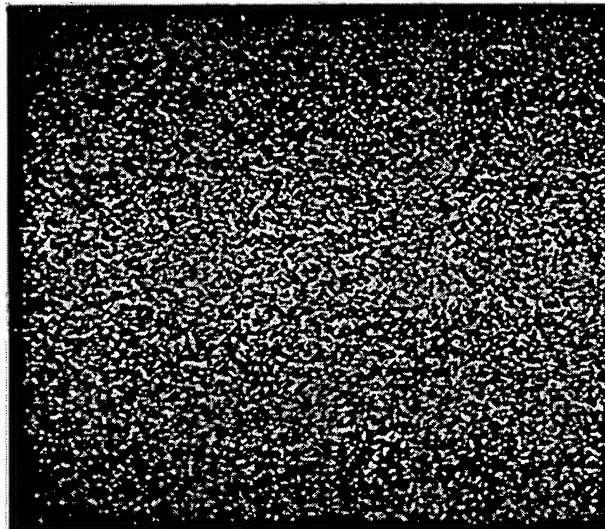
**FIG. 11d**



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HIGH REYNOLDS NUMBER SWIRLING  
FLOW UNDERGOING SUDDEN EXPANSION

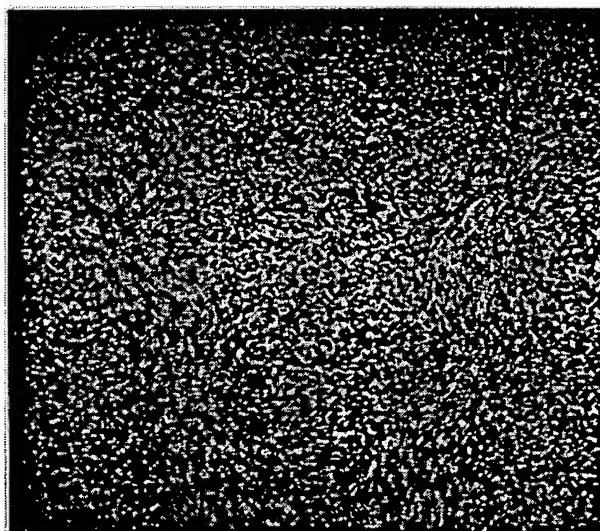
First Image Frame



***FIG. 12a***

HIGH REYNOLDS NUMBER SWIRLING  
FLOW UNDERGOING SUDDEN EXPANSION

Overlaid 1st and 2nd Image Frames

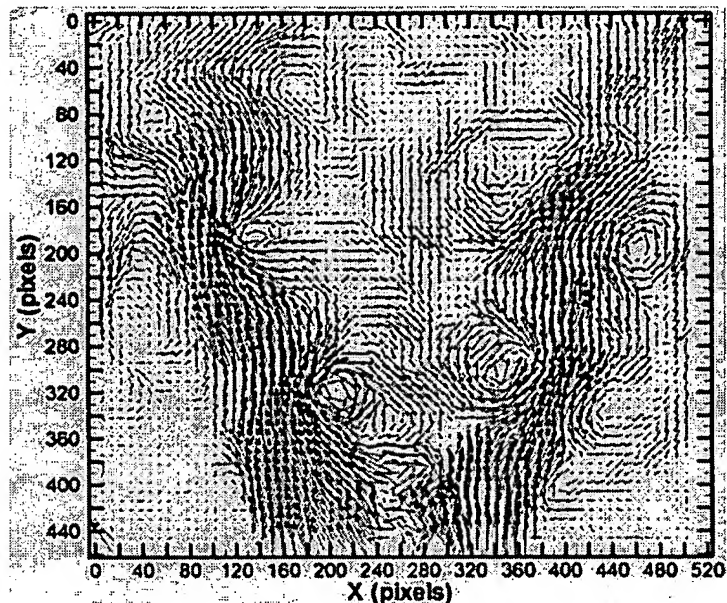


***FIG 12b***



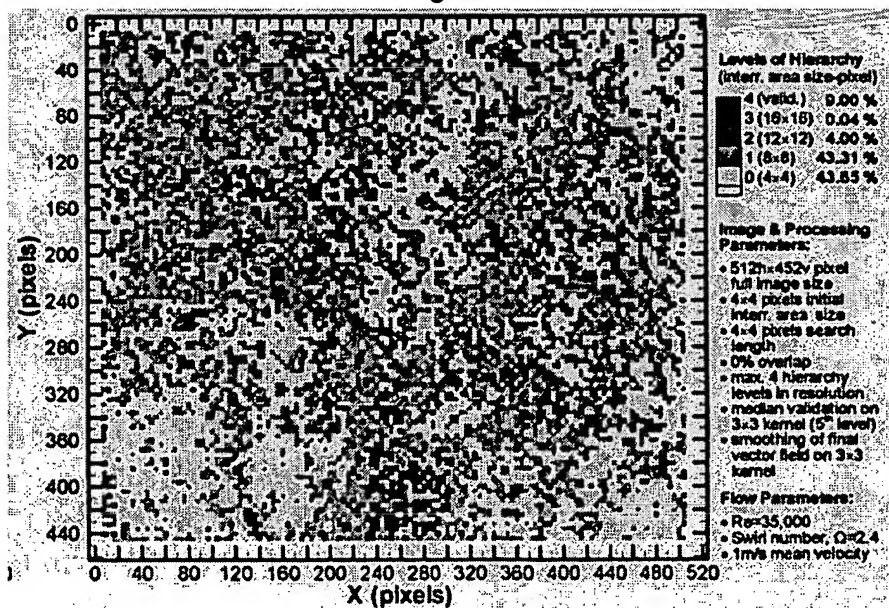
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Vector Field on a Regular Mesh



**FIG. 12c**

Distribution of Interrogation Area Size



**FIG 12d**